United States Department of Agriculture

Vallenar Young-growth Project

Environmental Assessment

Forest Service
Alaska Region

Tongass National Forest
Ketchikan Misty Fjords
Ranger District

R10-MB-820a **February 2018**

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Cover photo: Young-growth stand on Gravina Island (Jessica Davila).

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Introduction

The Forest Service has prepared this environmental assessment (EA) for the Vallenar Young-growth Project (proposed project) to assist agency planning and decision making in identifying the environmental impacts of the Proposed Action to clearcut 155 acres of young growth forest and recondition 1.2 miles of road.

The proposed project is located on the Ketchikan Misty Fjords Ranger District (District), Tongass National Forest on the north end of Gravina Island, within the Vallenar Creek Watershed. The project area (284 acres) is accessed by the Vallenar Bay Road which connects the Gravina Island Industrial Complex with the National Forest System (NFS) road 8110000 (figure 1). The project area is within the Timber Production Land Use Designation (LUD) where timber harvest is allowed by the Tongass Land and Resource Management Plan (Forest Plan).

The project area (figure 1) is one of the oldest even-aged, young-growth timber stands on the District that is road accessible. The stand consists mainly of Sitka spruce and lesser amounts of western hemlock and red alder. Alder is distributed throughout the stand typically in previously disturbed areas and along streams. Forest floor vegetation ranges from mosses to shrubs unevenly distributed throughout the project area. Site productivity is high, and trees are typically vigorous, well-formed, and free of damage from insects and disease.

Soil drainage within the project area varies and contains well-drained areas mixed with areas of poor drainage. Areas of well drained soils typically contain larger trees, while areas of poorly drained soils support dense thickets of more slowly growing trees. Numerous streams, both fish bearing and non-fish bearing, lie within the project area flowing south into Vallenar Creek.

Public Involvement

During public open house meetings in 2016 and 2017, the proposed project was discussed as an opportunity for young-growth timber management on the District. The Forest Service engaged stakeholders (State of Alaska Division of Forestry and Alaska Forest Association) to discuss further. District employees also met with the Ketchikan High School Youth Advisory Council (YAC) in 2017 to introduce YAC members to the National Environmental Policy Act (NEPA), the environmental analysis process, and how to participate as members of the public by providing specific written comments on the EA.

Public scoping for this project was conducted for 30 calendar days and announced with a legal notice in the *Ketchikan Daily News* on May 9, 2017. Notification was provided by postal mail to 13 interested parties. Emails, including project information were sent to 533 members of an electronic mailing list who requested information on timber projects proposed on the Tongass National Forest. The project was posted on the Tongass National Forest website: https://www.fs.usda.gov/project/?project=51766. Public comments received during this period were incorporated into the project description and used to clarify other information. To allow for additional review and comment, scoping was extended for an additional 15 days as announced in the *Ketchikan Daily News* on June 29, 2017. Collectively, we received seven letters from interested parties, resulting in 41 individual comments. After reviewing the comments, the Forest Service determined that there were no concerns that have not been addressed through project mitigation and design.

Since September 2016, the Forest Service provided monthly project updates to local federally recognized Alaska Native Tribes and Alaska Native Corporations. This EA and the Project Record were provided for their review prior to publication of the legal notice.

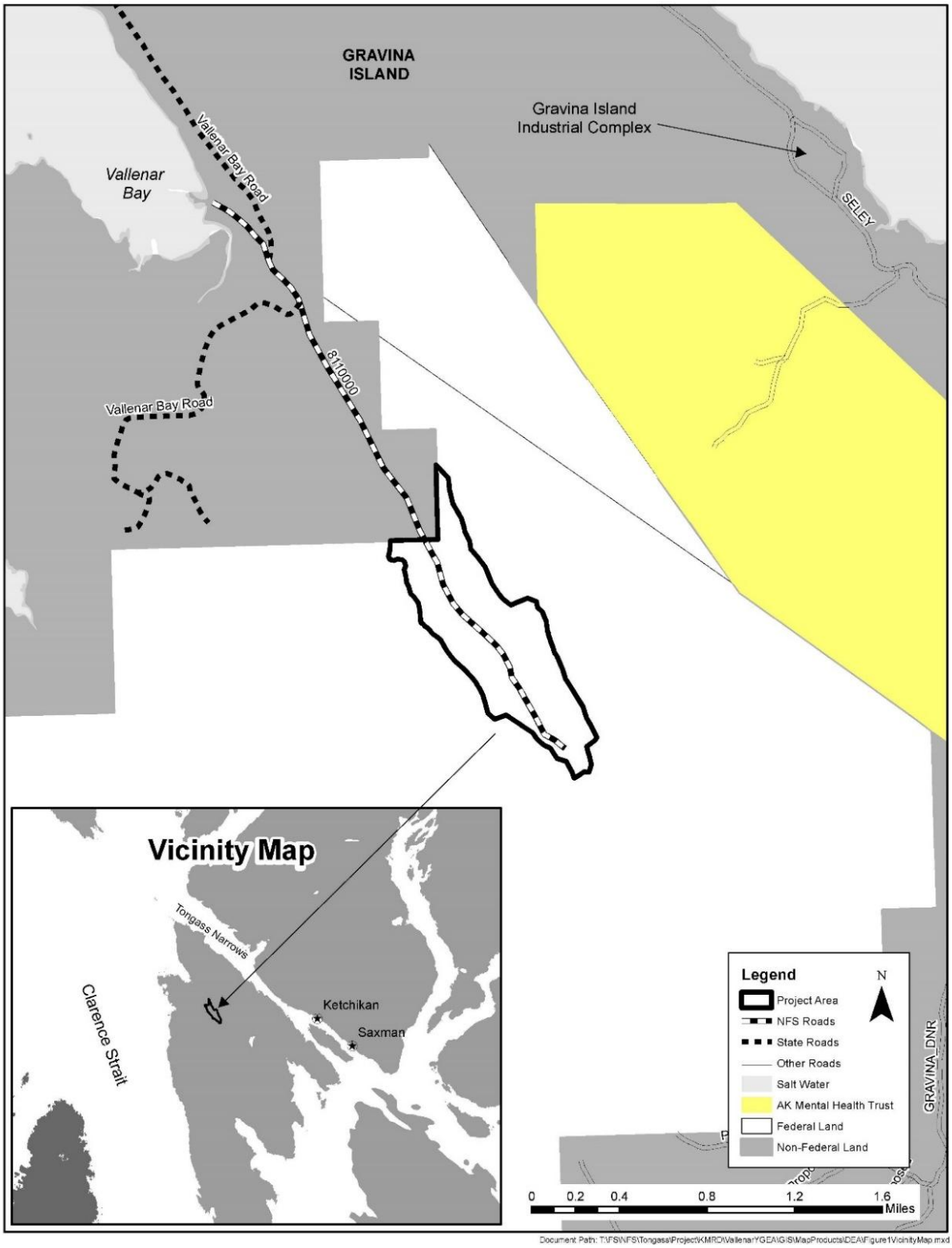

Figure 1. Project area

Need for the Proposal

This project proposal responds to direction in the 2016 Tongass Land and Resource Management Plan (Forest Plan) specific to applicable young-growth direction in the Timber Production LUD. Desired conditions for the Timber Production LUD include managing lands for sawtimber and other wood products, and maintaining healthy tree stands that contribute to annual volume outputs for the Forest (Forest Plan, p. 3-118).

Young-growth timber provided by this project would not only help meet the desired conditions, but also support the transition from an old-growth dominated timber industry to young-growth dominant timber industry (Forest Plan, pp. 2-5, 5-2, 5-3, 5-4, 5-13 and 5-14). In order to begin this transition, the timber industry needs an economically viable supply of young-growth timber to develop new markets, refine skills, and acquire equipment necessary for a young-growth industry (Forest Plan pp. 5-3, 5-4).

The sale of this timber would increase the amount of economically viable young-growth timber consistent with Forest Plan Objectives O-YG-01 and O-YG-02 (Forest Plan pp. 5-2, 5-3). Offering a timber sale now benefits timber purchasers by having a more predictable supply of volume that takes advantage of economic efficiencies associated with currently planned timber sales (State of Alaska and University of Alaska) in close proximity.

Alternatives

Proposed Action

The Forest Service proposes to harvest an estimated 4.6 million board feet (MMBF) of young-growth timber on 155 acres on National Forest System (NFS) lands (figure 2). Timber would be harvested by clearcut, using ground based shovel (about 62 acres) and short span cable (about 93 acres) log yarding systems. About 1.2 miles of road 8110000 would be reconditioned[1] to access the timber and to restore hydrological function in the Vallenar Creek Watershed.

The following approved Best Management Practices (BMPs) would be followed during implementation:

- National Core BMP Technical Guide FS-990a
- Alaska Region Soil and Water Conservation Handbook, Forest Service Handbook 2509.22
- Guidance for Invasive Plant Management Program, Tongass National Forest (i.e. Weed BMPs)

Implementation is expected to begin in the summer of 2018.

[1] Road reconditioning - Work consisting of blading the surface of an existing road to remove potholes and wash boarding, and reestablish an adequate crown. (Standard Specifications for Construction of Roads and Bridges of Federal Highway Projects FP 14) (Consult Forest Plan, p. 7-51.)

No Action

The No Action Alternative represents the existing condition in which activities described under the Proposed Action would not take place at this time. The No Action Alternative serves as a baseline against which the impacts of proposed activities not taking place can be compared with the magnitude of environmental effects of permitting the proposed activities to go forward.

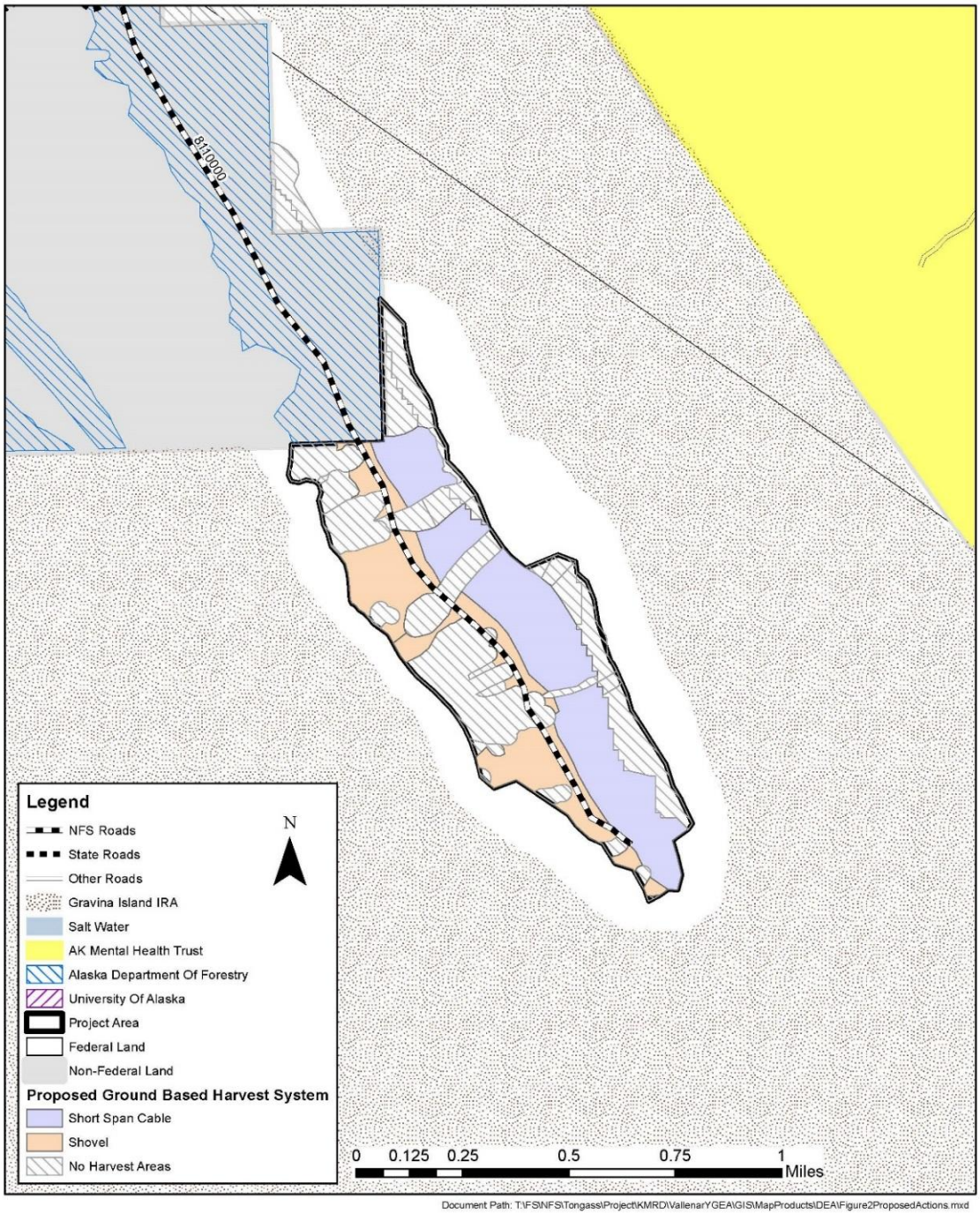

Figure 2. Proposed action

Environmental Impacts

This section describes the existing condition of the project area and discloses the anticipated direct, indirect, and cumulative impacts of the proposed project. The information summarized in this section was obtained from published and unpublished materials; interviews with local, State, and Federal agencies; and field surveys conducted in the project area. For effects analysis the term negligible used throughout means "not measurable". For purposes of this analysis, the terms effects and impacts used in this section have the same meaning (40 CFR 1508.8).

The Project Record provides a central location where project information used in analysis is filed and will remain accessible to the public until a final decision for the project is signed. The Record can be found at: https://www.cloudvault.usda.gov/index.php/s/T82cnnAjvuvxjk7.

Over the past ten years other young-growth projects have occurred on the Tongass (e.g., Winter Harbor Commercial Thin, the Commercial Thinning Study on Prince of Wales Island, Dargon Point Integrated Resource Timber Contract, and Heceta Island Commercial Thin Integrated Resource Stewardship Contract). The most recent young-growth timber sale on Kosciusko Island has further developed experience, knowledge, and skills of operating in young-growth timber. These projects have provided valuable resource information that informed the Vallenar project design and analysis.

Interrelated Projects

As required under NEPA and the regulations implementing NEPA, interrelated projects are considered in determining potential cumulative impacts from past, present, and reasonably foreseeable future actions combined with the Proposed Action (figure 3). Cumulative effect analysis areas were defined by each resource to better understand anticipated effects (40 CFR 1508.7).

Table 1 summarizes past and reasonably foreseeable future actions considered in analyzing cumulative effects. No present actions are occurring at this time. More detailed information about these projects is located in the project record.

Table 1. Interrelated projects

Projects	Timing	Description
State of Alaska Road	Past Action	About seven miles of road was constructed from Gravina Island Industrial Complex around California Ridge to tie in with existing National Forest System (NFS) road 8110000.
State of Alaska Road Reconstruction		In August 2017, the State of Alaska completed reconditioning of 1.2 miles of road 8110000 located on State lands.
State of Alaska Timber Sale	Reasonably Foreseeable Future Actions	Proposed harvest of 300 acres of young- growth and 300 acres of old-growth timber adjacent to the project area. An offering is anticipated in the summer of 2018.
University of Alaska Timber Sale		Proposed timber sale on 1,309 acres of land managed by the University of Alaska. This sale is currently available for purchase.

Projects	Timing	Description
Alaska Power & Telephone Powerline Expansion		Proposed powerline up the east side of High Mountain. About 3,275 feet of this expansion would be located on NFS land outside of the project area. The remainder of the powerline expansion would be located on Alaska Mental Health Trust and the Ketchikan Gateway Borough lands. Implementation is scheduled to begin in June 2018.
Alaska Mental Health Trust Land Exchange		Approximately 3,180 acres of non-Federal land on Gravina Island, outside of the project area is proposed for conveyance to the Forest Service as part of this exchange in May 2019.

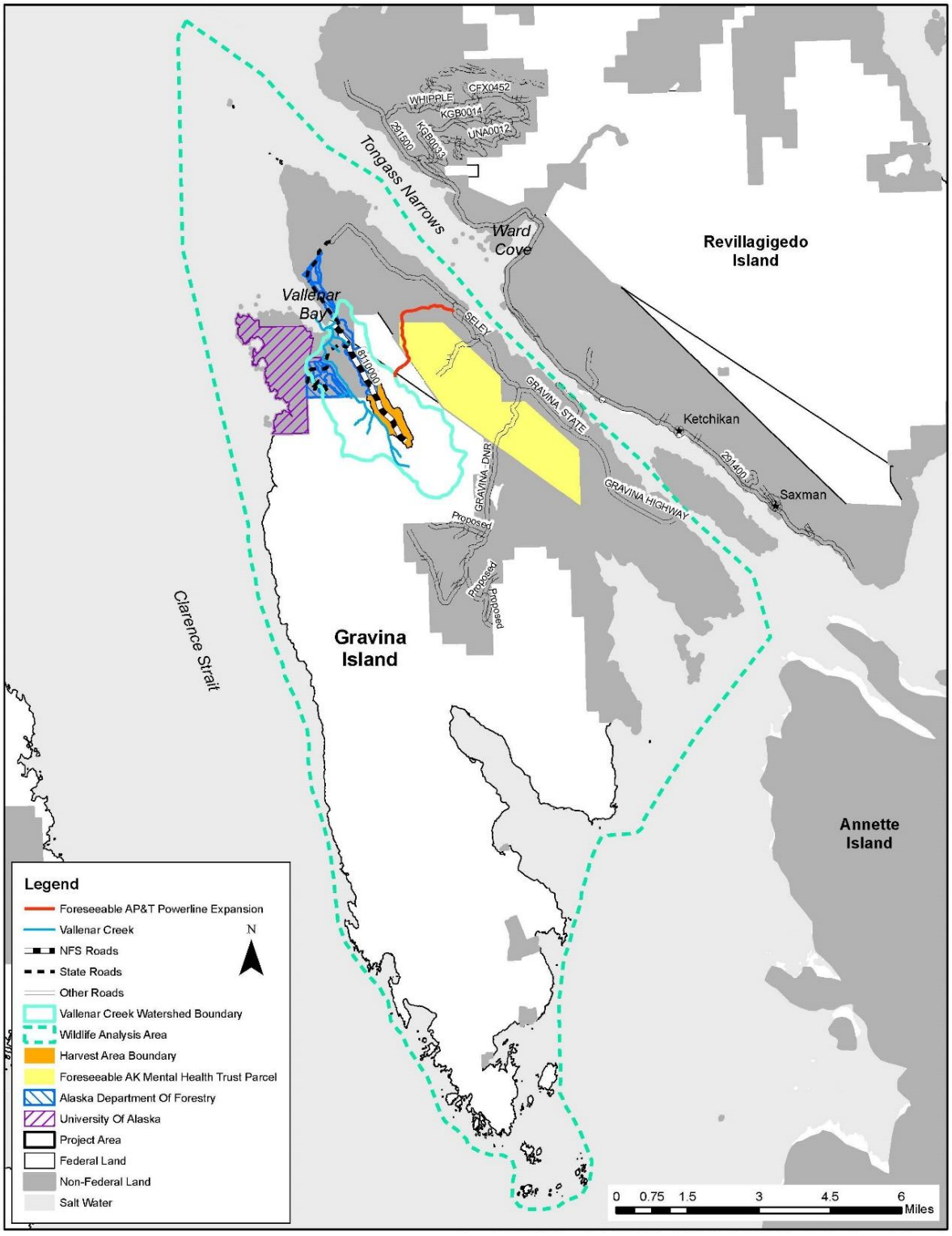

Figure 3. Interrelated projects

Assumptions for Analysis

- Road 8110000 on NFS lands would be closed post-harvest.
- University of Alaska and State of Alaska timber sales would be clearcut.
- Four barge trips would be required to remove harvested logs from Gravina Island.
- Contract measures would be enforced to minimize potential conflicts with increased vehicle traffic on the haul route.

Resources or Uses Not Present or Not Affected

Resources or uses that were not present or not directly or indirectly impacted by the alternatives and, not further analyzed include:

- Heritage and Cultural Resources
- Lands and Special Uses
- Recreation
- Inventoried Roadless Areas
- Scenery
- Subsistence
- Threatened or Endangered Plants
- Wetlands
- Wilderness

Additional details and analysis describing the resources and uses mentioned above are located in the Project Record.

Forest Vegetation

The analysis area for direct and indirect effects on forest vegetation is the project area. Cumulative effects for forest vegetation were analyzed at the stand level of the original harvest in 1955, approximately 542 acres which are now split between State of Alaska and Forest Service managed lands. Forest vegetation was sampled on 115 points during the summer of 2016 and walk-through visual surveys in 2017. Sample point data were summarized and average stand attributes determined.

Forest vegetation consists of young growth following the previous timber harvest in 1955 (stand age 62 years). The project area (284 acres) is an even-aged mostly single-storied stand that consists mainly of Sitka spruce and lesser amounts of western hemlock and red alder. Alder can be found throughout the stand typically in heavily disturbed areas and along stream courses. Overall, the main canopy trees are vigorous and undamaged. Wetter areas within the project area contain thickets of hemlock showing signs of competitive stress and decreased vigor. Windthrow risk is moderate-to-high throughout much of the project area; however, areas at the base of the slope have a low risk of windthrow when compared to areas mid-slope and higher within the project area. Unevenly distributed understory herbs and forbs can be found throughout, and areas of lower productivity typically contain a greater variety and abundance of species.

Direct, Indirect, and Cumulative Impacts

Forest vegetation would be directly affected by clearcut harvest as the stand development changes from stem exclusion to stand initiation (2016 Forest Plan FEIS, p. 3-192) within harvested areas in the project area. All openings would meet Forest Plan direction for size limitations due to resource buffers and areas not being proposed for harvest (figure 2). Clearcutting would increase sunlight to the forest floor, which would favor the establishment of new trees, shrubs, forbs, and other vegetation. Regenerating tree species composition is expected to be similar to the existing condition as there is a viable seed source surrounding the stand as well as a seed bank in the soil (2016 Forest Plan FEIS, pp. 3-337, 3-338). The amount of alder regeneration is expected to be reduced from the existing condition as current harvesting practices have much less ground disturbance than historical operations. The stand is expected to establish enough conifers within five years after harvest to meet restocking requirements (2016 Forest Plan FEIS, p. 3-338).

New trees are expected to grow at current site potential as soil productivity is not expected to decline from the existing condition (See Soils section.). Trees are expected to be vigorous and mostly insect and disease free like the existing condition. Trunk wounding and root damage can occur along harvest edges but would be minimized with careful felling and by creating larger openings. There would be an overall increase in the abundance and diversity of shrubs, herbs, and forbs for about 15-30 years before trees occupy most of the growing space.

Indirectly, unharvested areas around streams, alluvial fans, and areas of lower productivity would continue to develop while benefitting from increased growing space and increases in sunlight from the surrounding harvested areas. However, indirect effects are anticipated from harvesting overstory vegetation because of the potential to increase the chance of windthrow in adjacent unharvested areas. Currently, the stand has minor amounts of windthrow (blowdown) indicating that wind has influenced the stand. Harvest methods such as commercial thinning and uneven-aged management systems were considered during prescription development. It was determined that these management systems would not meet the need for the proposal. Uneven-aged management systems are more costly, remove less volume, and have the potential to damage the residual stand during yarding and by increasing future windthrow susceptibility. During the layout phase of implementation, all streams would be reviewed to identify areas that may need additional reasonable assurance of windfirmness (RAW) buffer[2] adjacent to streams.

The assumption of clearcut harvest on adjacent non-Federal lands represents the “maximum effect” possibility, although the total amount of acreage could be lower, as operational constraints and areas of low volume are removed from potential harvest acres. Cumulatively, there would be an increase of young even-aged forest structure (about 413 acres total) as much of the stand would be clearcut. Additional openings created by harvest on State lands could increase the windthrow potential to stream buffers and other leave areas from a north/northwest wind. These openings would be taken into consideration during RAW review during layout. All harvested acres are expected to regenerate and develop as described in the direct and indirect effects section above.

[2] Reasonable Assurance of Windfirmness (RAW) Buffer - A managed area designed to contain windthrow within the area where timber harvest is allowed. It is used to protect Riparian Management Areas and adjacent stands. Also see the definition for Windthrow Management Area (Forest Plan, 7-46).

Under the No Action Alternative, there would be no direct or indirect effects to forest vegetation. The project area would continue to grow and be influenced by naturally occurring disturbances. There would be an increase in the overall amount of young growth on non-Federal lands as the State of Alaska and University of Alaska old-growth harvests would continue as planned.

Invasive plant species

The analysis area for direct and indirect impacts from the introduction and spread of invasive plant species is the project area. The analysis area for cumulative effects is Gravina Island. Field surveys were conducted in 2017 and no invasive plant species were found within the project area; however, invasive plants do occur on Gravina Island as determined by surveys completed in 2008.

Direct, Indirect, and Cumulative Impacts

Direct effects from road reconditioning and timber harvest create ground disturbance and allow for more sunlight to reach the forest floor, creating conditions suitable for invasive species establishment. Additionally, equipment and people can transfer invasive plants and seeds into disturbed areas. Once established, invasive species can further spread into vulnerable habitats such as stream corridors and wetlands. The Tongass National Forest developed a set of Weed Best Management Practices (BMPs) to limit the risk associated with these activities (Krosse 2017). Closing road 8110000 after harvest would limit the establishment and spread of invasive plants in the project area.

Reed canary grass (*Phalaris arundinaceae*), orange hawkweed (*Hieracium aurianticum*i) and oxeye daisy (*Leucanthemum vulgare*) are highly invasive species of concern (Carlson et al. 2008) and were detected on the Gravina Island road system during the 2008 surveys. The recently constructed Vallenar Bay Road and traffic from the adjoining State of Alaska timber harvest (table 1) could increase the risk for invasive species spread and introduction. Adhering to 2016 Forest Plan direction, including, TRAN2.I.D (Forest Plan, p. 4-76) and Weed BMPs (Krosse 2017) would result in a low overall risk for invasive plant spread.

Under the No Action Alternative, there would be no direct, indirect, or cumulative impacts from invasive species as proposed activities would not take place.

Botany

The analysis area for direct and indirect impacts for botanical resources is the project area and includes areas proposed and not proposed for harvest. The analysis area for cumulative effects is Gravina Island. There are no federally listed or proposed threatened or endangered plants under the Endangered Species Act known to occur on the Tongass National Forest (Forest Plan FEIS, p. 3-136).

Well-drained soils along the toeslope and the transition zone from productive forest to wetland within the project area are high-probability habitats for Alaska Region sensitive and rare plants (Consult the botany Biological Evaluation and the botany Resource Report for definitions). Field surveys conducted in 2008 and 2017 identified the sensitive round-leaf orchid (*Platanthera orbiculata*) and the rare threeleaf foamflower (*Tiarella trifoliata* var. *laciniata*) and Alaska holly fern (*Polystichum setigerum*).

Direct, Indirect, and Cumulative Impacts

Road Reconditioning

No sensitive or rare plants were found within the road corridor proposed for reconditioning during the 2017 field survey. Therefore, no direct, indirect, or cumulative effects to sensitive or rare plants are anticipated.

Timber Harvest

Sensitive Plants

One occurrence of the sensitive round-leaf orchid, comprised of four individuals, is located inside the project area and would be directly impacted by the proposed timber harvest. Indirectly, young-growth harvest could disturb soil organisms and potentially impact fungi important to orchid germination and growth. However, ground-based logging systems and partial suspension during cable yarding would limit the amount of soil disturbance that occurs during harvesting and is expected to have a low impact on fungi communities. Therefore, minimal direct effects are anticipated on the round-leaf orchid from the Proposed Action.

The overall risk to round-leaf orchid is low because of other known occurrences on Gravina Island. Four occurrences, comprised of more than 300 individuals are in the Gravina Inventoried Roadless Area and non-development land use designations (LUDs) and would not be affected. One occurrence on non-Federal lands could be impacted by future timber harvest and roads (table 1). Based on these considerations, it is anticipated that the proposed project, when combined with the interrelated projects in table 1 “may affect” the sensitive round-leaf orchid, but would not affect the long-term viability of the species.

Rare Plants

A population of the laciniate foamflower occurs in scattered patches in the central portion of the project area, and additional plants occur outside of the project area on Gravina Island. Over 30 individual plants could be directly impacted by the proposed timber harvest, with other individuals in the project area protected by stream buffers.

Proposed harvest activities are not expected to cause a downward trend in the rare plant on Gravina Island because laciniate foamflower occurs outside of the project area in non-development LUDs and the Gravina Inventoried Roadless Area. Surveys indicate the distribution of laciniate foamflower observed in the young-growth stand would persist. Based on these considerations and the habitat protection provided through Forest Plan direction and non-development LUDs, the Proposed Action, when combined with the interrelated projects (table 1) is anticipated to have negligible cumulative effects to laciniate foamflower and its habitat.

Alaska holly fern was found on a streambank and on the upslope edge of the unit boundary in low productivity timber. The holly fern along the streambank would be protected by stream buffers and would be unaffected. Ferns found near the upslope edge occur in areas of low merchantable timber and are unlikely to be disturbed.

Based on known locations within the project area and habitat protected through Forest Plan direction, non-development LUDs, and the Gravina Inventoried Roadless Area, the Proposed Action, when combined with the interrelated projects (table 1) is anticipated to have a low cumulative impact to the Alaska holly fern and its habitat.

Under the No Action Alternative, there would be no direct or indirect impacts or cumulative effects to sensitive or rare plants as proposed activities would not take place.

Soils

The analysis area for direct, indirect and cumulative effects on soil resources is the project area. This analysis relies on field data collection, analysis of 1959 air photos, and monitoring data summarized in the 2016 Forest Plan Final Environmental Impact Statement (FEIS).

Direct, Indirect, and Cumulative Impacts

Soils in the project area (figure 2) are mostly well-drained mineral soils formed from weathered rock and till; underlain by dense till at lower elevations, and bedrock at upper elevations. Detrimentally disturbed soils from the original harvest remain as a result of tractor skid trails, the road, landslides, and minor areas of cable yarding disturbance and occupy about 6 percent of the 155 acres proposed for treatment (or 5 percent of the 284 acre project area). Currently, the project area meets Region 10 Soil Quality Standards which require that soils in 85 percent of an activity area be maintained in a condition of acceptable productivity.

Portions of the project area with slopes over 72 percent would be deferred from timber harvest.

Shovel yarding on slopes less than 35 percent gradient (Landwehr 2014) and cable yarding on all slopes (Landwehr and Nowacki 1999) typically cause less than three percent detrimental soil conditions. It is estimated that detrimental soil conditions following harvest would be less than nine percent (currently six percent). Region 10 Soil Quality Standards allow up to 15 percent of a stand to be in detrimental soil conditions. Therefore, the Proposed Action would meet Regional Soil Quality Standards post-harvest.

The Proposed Action would have negligible cumulative effects to soils within the project area. The proposed harvest, combined with effects from the previous harvest would meet Region 10 Soil Quality Standards and soil productivity would be maintained.

Under the No Action Alternative, there would be no direct, indirect, or cumulative impacts because forest soils would continue to develop and be influenced by naturally occurring processes and disturbances.

Timber Economics

The Forest Service completed a financial analysis using the Financial Analysis Spreadsheet Tool – RV version August 21, 2017 (FASTR), to determine Forest Service costs, and incomes and jobs. FASTR assumes 100 percent of young-growth timber would be available for export due to the high costs associated with timber harvest operations in Southeast Alaska and absence of young-growth manufacturing infrastructure in the region. The analysis also assumes ground-based yarding and felling by chainsaw. However, specific product use and differences in the logging methods are at the discretion of the purchaser if the effects are within the scope of the analysis. This project would also provide an opportunity for industry to develop new skills and increase local knowledge of harvest methods for young-growth timber.

Direct, Indirect, and Cumulative Impacts

Financial Feasibility

Estimated net sawlog volume from the Proposed Action is 3,543 thousand board feet (MBF) of Sitka spruce and 1,045 MBF of hemlock. Based on these expected volumes, a potential timber sale would be expected to appraise at a rate of $81.07 per MBF, indicating that the financial return from the Proposed Action would exceed expected costs.

The University of Alaska and the State of Alaska have proposed timber sales near the project area (table 1). The Vallenar Young-growth Project salability could improve if the timing of the Forest Service contract offer coincides with the sales on non-Federal lands. If this scenario is realized, this could provide additional volume to offset some costs associated with timber harvest such as mobilization of equipment.

Projected Employment and Income

Estimates indicate that ten annualized jobs related to logging could be supported and another seven jobs in transportation and other related services including those related to export such as stevedoring employment from the Proposed Action. Direct income from this employment is estimated at $1,029,574.00. Indirect effects were not estimated since they can be inaccurate and misleading for a project of this size (Alexander, 2012). It is anticipated that the Proposed Action, when combined with the University of Alaska and the State of Alaska timber sales, would have beneficial cumulative effects in terms of additional annualized jobs from logging, transportation and other services.

Forest Service Administrative Costs

Based on average budget information from the Alaska Region, the Forest Service administrative project costs are estimated at $255,186.00 which includes sale preparation, sale administration, and engineering support.

The No Action Alternative would not provide timber volume to support the viability of the timber industry, employment, revenue, or indirect beneficial effects to the communities. The opportunity to offer a timber sale that would take advantage of economic efficiencies of other sales would be missed.

Fisheries and Aquatics

The analysis area for direct, indirect, and cumulative effects is the Vallenar Creek Watershed (figure 4) and encompasses 3,892 acres. This watershed includes about 24 stream miles of which 13 are fish bearing (Class I and II). The project area contains about eight miles of streams of which three miles are fish bearing. There are three Class II fish crossings and eight Class III stream crossings on road 8110000. (Refer to road card in Project Record.) On the Tongass, stream channels are classified based on their fish production values. (Forest Plan, p. 7-60).

This analysis focuses on potential effects to fish species (refer to BE in Project Record), the aquatic ecosystem and water quality, and Essential Fish Habitat. Mitigation measures and approved Best Management Practices (BMPs) were included in the Proposed Action and in project design to eliminate or minimize potential adverse impacts. The road card includes a list of applicable BMPs and mitigation measures associated with the Proposed Action. (Refer to road

card in Project Record.) Applicable Forest Plan direction would be applied during implementation of logging activities, including road reconditioning and log-haul.

In 2016 and 2017, field surveys were conducted in the project area to identify all streams into class and process groups (USDA 2010 and USDA 2015). All streams in the project area were mapped to ensure that project design and implementation was consistent with applicable Forest Plan direction, including Riparian Management Area (RMA) direction and suitability for timber production (Forest Plan, Appendix A).

Aquatic Ecosystem and Water Quality

No direct, indirect, or cumulative impacts to fish species are anticipated. (See Biological Evaluation (BE) located in the Project Record.)

Ground disturbance and erosion from the Proposed Action would be minimized through application of stream buffers and BMPs. (Refer to road card.) Stream buffers would protect fish bearing streams with a minimum 100-foot buffer. Additional RMA buffers would be placed on Class III streams. Sediment input into non-fish bearing streams (Class III and IV) may occur; however, due to the small size and short-lived nature of these channels, any sediment transport would be of short duration (less than one week) and localized (limited to a few hundred feet downstream). Effects are anticipated to be minimal and short-lived with the application of BMPs, and water quality standards would be met. Stream buffers would also maintain shade, resulting in no direct, indirect, or cumulative effects to stream temperature. During implementation, RAW buffers would be applied as needed to protect Riparian Management Areas.

Log transport along the haul route would primarily occur outside of NFS lands. Once the logs leave the project area, the remainder of the haul route (seven miles) is on non-Federal lands along the state road (Vallenar Bay Road). This state road is managed in compliance with the Alaska Forest Resources and Practices Act (Alaska Statute 41.17) and State agencies (e.g., Department of Fish and Game, Department of Environmental Conservation) to protect fish habitat and water quality.

The Proposed Action would not increase peak streamflow in Vallenar Creek. According to Grant et al. (2008), detectable changes in peak streamflow could occur in a rain-dominated watershed like Vallenar Creek when more than 29 percent of the watershed has been harvested. The Proposed Action would harvest less than 29 percent of the watershed (about four percent); therefore no direct, indirect, or cumulative increases in peak streamflow in Vallenar Creek are anticipated. Even if there were direct or indirect effects, cumulative effects including the proposed State harvest levels would still be negligible because harvest levels in the watershed would be less than nineteen percent, well below the 29 percent cumulative harvest level threshold stated by Grant (2008) discussed in the BE and located in the Project Record.

The Proposed Action would directly improve existing conditions in the aquatic ecosystem by installing culverts and designing drainage features on road 8110000. These activities would increase natural drainage and re-establish hydrologic connectivity. Road 8110000 would revert to inactive status on NFS lands upon completion of activities. Indirect effects including improved natural flow and drainage pattern along road 8110000 are anticipated.

Under the No Action Alternative the existing conditions along the road would continue to indirectly affect fisheries and the aquatic ecosystem because drainage and flow in the project area

would not be improved until scheduled road maintenance occurs. The State of Alaska timber sale is expected to move forward and road improvements would still occur on non-Federal land.

Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297), requires Federal agencies to consult with National Marine Fisheries Service on activities that may adversely affect Essential Fish Habitat for federally managed marine and anadromous fisheries.

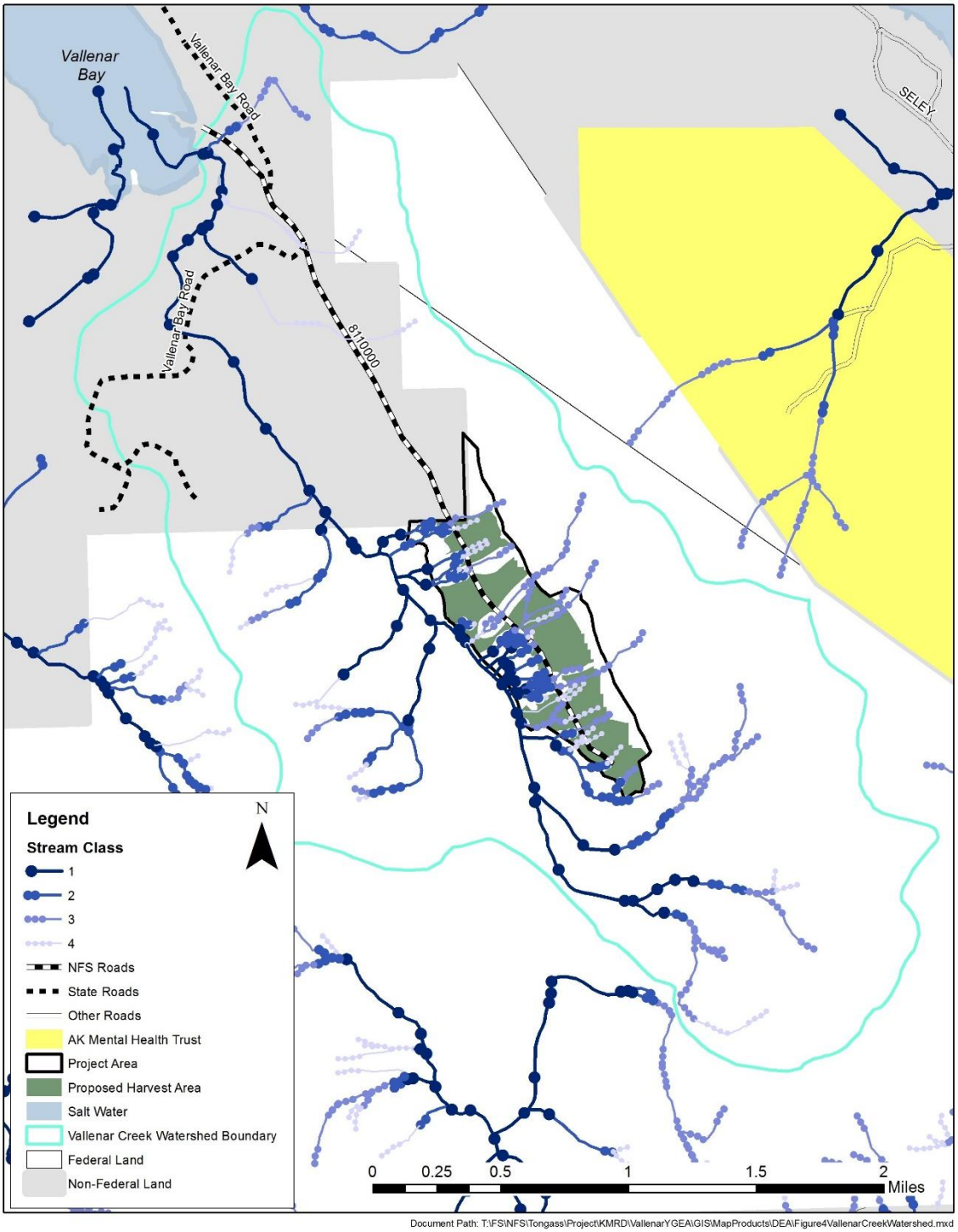

Figure 4. Vallenar Creek Watershed and streams

Essential Fish Habitat is defined as those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA 2007). The Proposed Action would have "no adverse effects" on Essential Fish Habitat as all proposed activities would occur outside of anadromous waters. Stream buffers and BMPs would protect all anadromous waters from timber harvest activities. Road reconditioning would occur upslope and away from anadromous waters

(figure 4). Due to the small size, low velocity, and short-lived nature of the stream crossings in the project area, it is unlikely a measurable amount of sediment would reach downstream anadromous waters during reconditioning activities or logging operations. Forest BMPs, such as timing restrictions and erosion control measures for all instream road recondition activities, would further minimize the chance of erosion or sedimentation to waters in and adjacent to the analysis area. In the long term, road drainage improvements would have a beneficial effect to fish, Essential Fish Habitat, and the aquatic ecosystem by improving natural drainage patterns. Because of this, cumulative effects to Essential Fish Habitat would be negligible.

Under the No Action Alternative the existing conditions along the road would continue to cause indirect effects on fisheries and the aquatic ecosystem because drainage and flow in the project area would not be improved until scheduled road maintenance occurs. The State of Alaska timber sale is expected to move forward and road improvements would still occur on non-Federal land.

Wildlife

The analysis area for direct and indirect effects is the project area. The analysis area for cumulative effects is Wildlife Analysis Area (WAA) 101, which is Gravina Island. Federally listed threatened and endangered wildlife species known to occur within the boundary of the Tongass National Forest include four marine mammals and one bird species (Forest Plan FEIS, p. 3-223, Table 3.10-1).

Direct, Indirect, and Cumulative Impacts

A Biological Evaluation (BE) was prepared to meet Alaska National Interest Lands Conservation Act section 810 (Subsistence) and Endangered Species Act (ESA) requirements, Executive Order 13186 (Migratory Birds and Bird Species of Concern) and Migratory Bird Treaty Act, Forest Service Manual (FSM) direction, and the analysis requirements for the National Environmental Policy Act. The BE serves as the guiding document for analyzing effects of the Proposed Action. Since no ESA listed species or habitat would be affected no Biological Assessment (BA) was prepared.

It is anticipated that harvested logs would be transported from the Gravina Island Industrial Complex (GIIC); and therefore, potential impacts to the ESA listed humpback whale, Mexico Distinct Population Segment (DPS) were analyzed to meet ESA requirements.

There would be no direct or indirect effects to the humpback whale Mexico DPS. In Southeast Alaska, there is a low (six percent) probability (Wade et al. 2016) of encountering a humpback whale from the Mexico DPS relative to all humpback whales. Also, the four barge loads assumed necessary to transport the logs from the GIIC would not result in a noticeable increase in vessel traffic when compared to normal marine traffic in the Tongass Narrows.

This analysis describes potential effects from the Proposed Action to the following old-growth dependent species: Queen Charlotte goshawk (Alaska Region sensitive species), Alexander Archipelago wolf, and Sitka black-tailed deer.

No direct or indirect effects to goshawks are anticipated because there would be no changes to Productive Old Growth (POG) habitat. The project area is surrounded on three sides by POG, therefore, it is possible that the Proposed Action could disturb and displace goshawks in the immediate vicinity of the project area during active logging operations. However, none of the 28 surveys conducted in 2017 found goshawks or goshawk nests within the project area.

Direct and indirect effects to the Alexander Archipelago wolf would be negligible, because there would not be any change to or reduction of POG habitat. There would be no increase in opportunities for wolf harvest as the road would be closed after timber sale completion and no new NFS roads would be constructed.

Direct and indirect effects to Sitka black-tailed deer would be negligible, because POG habitat on NFS land would not be altered. This project could displace some individuals when harvest activities occur, however, this would be temporary and short in duration. In addition, forage habitat would increase in the years following harvest, thereby providing a beneficial effect. Furthermore, much of the highest concentration of existing browse in the project area would be protected by stream buffers and stream protections. The Proposed Action would likely result in some minor loss of connection between the high-elevation habitat and the lower-elevation habitat near Vallenar Creek; however, some elevational corridors would be maintained with stream buffers and the adjacent Gravina Inventoried Roadless Area (figure 2).

Because there are no measurable direct or indirect effects to the humpback whale Mexico DPS, Queen Charlotte goshawk, Alexander Archipelago wolf, or Sitka black-tailed deer, there would be no cumulative effects from the Proposed Action.

Under the No Action Alternative, the lack of species diversity typical of the stem exclusion stage would continue (2016 Forest Plan FEIS p. 3-192). The project area would continue to lack old-growth characteristics preferred by old-growth associated species until the stand reaches 150 or more years of age.

Agencies and Persons Consulted

Federal, State, and Local Agencies

USDA Forest Service

National Oceanic and Atmospheric Administration, National Marine Fisheries Service

State of Alaska Department of Fish and Game

State of Alaska Department Natural Resources, Division of Forestry

Federally-Recognized Tribes

Organized Village of Saxman

Ketchikan Indian Community

Metlakatla Indian Community

Others

Cape Fox Native Corporation

Alaska Native Brotherhood Camp 14

Alaska Forest Association

Ketchikan High School, Youth Advisory Council

Finding of No Significant Impact

As the responsible official, I am responsible for evaluating the effects of the project relative to the definition of significance established by the Council on Environmental Quality (CEQ) regulations (40 CFR 1508.13). After a thorough review of the EA, comments received, and consideration of the Forest Plan and documentation included in the Project Record, and I have determined that the Proposed Action will not have a significant effect on the quality of the human environment. As a result, no environmental impact statement will be prepared. My rationale for this finding is as follows, organized by sub-section of the CEQ definition of significance cited above.

Context

For the Proposed Action and alternatives, the context of the environmental effects is based on the environmental analysis in this EA. The significance of an action must be analyzed in several contexts and varies with the setting. In the case of site-specific actions, significance depends more on the effects in the locale rather than the world as a whole. Both short- and long-term effects are relevant.

For the selected actions, the context of the environmental effects is based on the analysis in this EA. The setting of this action is limited to National Forest System lands outside of the Gravina Inventoried Roadless Area on about 155 acres of young-growth forest within the Timber Production LUD. The relevant effects addressed in this EA are defined to the analysis areas for each resource at an appropriate scale for the Proposed Action. All activities described in this EA are consistent with applicable Forest Plan direction. Actions described in the Proposed Action are similar to other young-growth projects that have occurred or are occurring on the Tongass National Forest (EA, p. 5).

Even in a local context, the Proposed Action would not pose significant short- or long-term effects. The project's scale limits its effects on the natural resource values and uses. Forest Plan direction and design criteria included in the Proposed Action mitigate adverse impacts to the extent that impacts to some resources are negligible. (See Environmental Impacts section.)

Intensity

Intensity is a measure of the severity, extent, or quantity of effects, and is based on information from the effects analysis of this EA and the documentation in the Project Record. The effects of this project have been thoroughly considered with an analysis that is responsive to comments and concerns raised by the public. We have taken a hard look at the environmental effects using relevant scientific information and knowledge of site-specific conditions gained from field visits. My finding of no significant impact is based on the context of the project and intensity of effects using the ten factors identified in 40 CFR 1508.27(b).

1. Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

   Effects of the Proposed Action were analyzed and disclosed by resource specialists at spatial and temporal scales appropriate to that resource in this EA. Potential adverse impacts of the Proposed Action are either avoided in space and time or are mitigated through project design including BMPs and applicable Forest Plan direction. (See Environmental Impacts section.)

Some impacts from the Proposed Action are negligible because they are of limited size and/or duration.

Beneficial impacts from the Proposed Action, while important to some resources, were disclosed in this analysis but were not considered to counterbalance any adverse impacts disclosed in this EA.

2. The degree to which the Proposed Action affects public health or safety.

Activities associated with young-growth timber harvest have been implemented on the Forest with no impacts to public health or safety. No circumstances or conditions exist to indicate unusual or substantial risks to public health and safety. No concerns were raised during the public scoping period. Contract measures will be enforced during implementation to minimize conflicts with increased vehicle traffic.

3. Unique characteristics of the geographic area such as the proximity to historical or cultural resources, parklands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

Historical and cultural resources were inventoried and analyzed and it was determined that the Proposed Action would have no effect on cultural and historical sites. The State Historic Preservation Officer concurrence confirms this finding. Should any new historical and cultural concerns be identified during project implementation, the District Archaeologist will be immediately notified and operations will stop and/or be adjusted to address any resource concerns (Heritage and Cultural Resources Report R2016-1005-52-023 page 2).

No parklands, prime farmlands, wild and scenic rivers, or areas of critical ecological importance lie within the project area. Forested Wetlands lie in areas surrounding the project area, but are not within the project area.

4. The degree to which the effects on the quality of the human environment are likely to be highly controversial.

I have reviewed all comments received during the scoping comment period for the proposed project, the analysis documented in the EA, and the information in the Project Record. Based on the level of public outreach, the limited and localized response, and the lack of scientific controversy over the impacts of this project, I have determined that it is unlikely the effects to the human environment from implementing the Proposed Action would be highly controversial.

The management of National Forests can be controversial in nature; however, the management of publicly-owned forest is seldom controversial from a scientific perspective. Commenters provided an array of support for and opposition to various elements of the project, or the project in its entirety. These and the responses to all comments are documented in the Project Record.

Activities associated with young-growth timber harvest have occurred in similar conditions in the past and the effects are known (EA, p. 5). The interdisciplinary team developed the Proposed Action to be responsive to both economic and ecologic objectives (EA, p. 3), while meeting the need for the proposal (EA, p. 3) and considering all applicable Forest Plan direction. Based on the analysis in the EA, I believe that the effects on the quality of the human environment are not likely to be highly controversial.

5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

   Timber harvest and road reconditioning activities have occurred on the Tongass National Forest. The Forest Service has considerable experience with the types of activities like those in the Proposed Action, which are reasonably predictable and well understood. None of the activities in the Proposed Action are new or unique. Based on the analysis, I believe the possible effects on the human environment are not highly uncertain and do not involve unique or unknown risks. The analysis provided in the EA beginning on page 8 supports my conclusion. (See Environmental Impacts section of the EA.)

6. The degree to which the action may establish precedent for future actions with significant effects or represents a decision in principle about a future consideration.

   Timber harvest and road reconditioning activities are well-established practices on the Tongass National Forest and do not establish a precedent for future actions. The Proposed Action is not likely to establish precedent for future actions with significant effects because this type of action has occurred in the past (EA, p.5). Timber harvest activities under the Proposed Action would take place on previously harvested ground, and use an already established road system and is, therefore, similar in size and scope of past actions (table 1 and figure 2). The effects of the Proposed Action were considered by the interdisciplinary team within the context of past, present, and reasonably foreseeable future actions. (See the cumulative effects analysis for all resources in the Environmental Impacts section of the EA).

   The scope of my decision is limited to local action to be undertaken over a specified time period, and these actions do not establish a precedent for future decisions. The Proposed Action is within the scope of the Forest Plan and is not expected to establish a precedent for future actions. Any future action(s) not covered by this project, whether related to the actions in this project or separate, will consider all relevant scientific, site-specific information available at that time and be subject to the appropriate environmental analysis that will consider the direct and indirect effects and cumulative effects of all other past, present, and reasonably foreseeable actions.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

   In order to have a cumulative effect there must be a direct or indirect effect to a resource by the Proposed Action. Resource specialists involved with this project considered the interrelated projects summarized in table 1 and shown in figure 2 of the EA to determine if these actions combined with the Proposed Action would have cumulative impacts. I have reviewed the cumulative impacts as analyzed and disclosed by resource specialists and agree with their findings that cumulative impacts from past, present, and reasonably foreseeable future actions when combined with Proposed Actions in this project may have cumulative impacts, but are not significant. (See Environmental Impacts section.)

8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of

Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

Activities in the Proposed Action will have no significant adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (Heritage and Cultural resources report R2016-1005-52-023). Historical and cultural resources have been surveyed and researched for the project area and no concerns have been identified (Heritage and Cultural resources report R2016-1005-52-023). A letter of concurrence for "No Effect" has been received from the State Historic Preservation Officer. This project will satisfy all provisions of 36 CFR 800, Protection of Historic Properties. Based on this information I conclude that this action will not cause loss or destruction of significant scientific, cultural, or historical properties. Page 8 of the EA discloses Heritage and Cultural Resources as a resource not affected, and supporting documentation is provided in the Project Record.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

There are no threatened or endangered plant species on the Tongass National Forest (EA, p. 10). Potential effects to all federally threatened and endangered wildlife species, candidate species and habitat that could occur in the project area were analyzed as part of the Wildlife Biological Evaluation (BE) for this project. Direct, indirect, and cumulative impacts from the Proposed Action are disclosed in the wildlife effects analysis. It was determined that the Proposed Action would not result in significant impacts (EA, p. 11).

Findings in the BE conclude that potential effects to species analyzed would be negligible and/or have no effect (BE page 7).

10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The action does not violate any Federal, State or local law or requirements imposed for protection of the environment. The analysis and implementation complies with all applicable Federal, State, local laws and regulations, and is consistent with policy pertaining to management of National Forest resources. The Proposed Action follows Best Management Practices and includes other mitigations to avoid, minimize, and protect the environment (see Proposed Action).